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# Skills-based constraints and complexities affecting small-scale communal cattle farmer entrepreneurs in Vhembe District

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## Abstract

*This paper investigates constraints and complexities affecting entrepreneurial and Agri-business small-scale communal cattle farming success and sustainability in the Vhembe District of Limpopo Province, South Africa. The respondent entrepreneur farmers were randomly selected (n=55) amongst 183 other farmers for primary data collection. A semi-structured cross-language (English-Tshivenda) questionnaire was employed to gather the data. Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs) were also employed. The results of this paper revealed that the entrepreneur farmers' formal school educational levels and basic literacy skills in addition; subtraction; multiplication and division were reasonably higher while technological skills in farm risk management and production, and managerial competence in business financial skills; budgeting and marketing were low amongst the farmers. Government extension service could be employed to improve some of these deficient skills through skills training programmes for the farmers. Institutions of higher learning such as the University of Venda and Madzivhandila Agricultural College could be utilized for the trainings.*

**Key Words:** *Agri-business; Agricultural productivity; Entrepreneur farmer; Formal school education*

**JEL classification:** *C33; G32*

## Introduction

There are countless small-scale farmer entrepreneurs in the developing regions of the world, but the majority of them struggle with regard increasing farm productivity and mainstream formal market participation, and most of these entrepreneurs are not sustainable (Agbenyegah, 2013). The majority of these entrepreneur farmers face innumerable complexities and constraints which influence their success – especially with regard skills advancing productivity of their farm enterprises (Mafukata, 2014) and product marketing (Mafukata, 2015). As opined by many, and in variety of fields (Agbenyegah, 2013; Maliwichi et al., 2011; Maliwichi et al., 2010; Msipah et al., 2013; Mulu-Mutuku et al., 2015; Otuya et al., 2013), a plethora of small-scale emerging entrepreneurs – be they artisanal or farmers in the developing regions in particular are constrained by a variety of complexities in their entrepreneurship. Amongst other constraints and complexities, entrepreneurship at this level is greatly constrained and impeded by skills-based bottlenecks (Agbenyegah, 2013). Those who study African entrepreneurship and

economy (Agbenyegah, 2013; Maliwichi et al., 2011; Maliwichi et al., 2010; Msipah et al., 2013; Mulu-Mutuku et al., 2015; Otuya et al., 2013) concede that bottlenecks, red-tapes, constraints and complexities impeding successful entrepreneurship have to be identified and removed.

Popular postulations assert that removal of constraints and complexities to Agri-business and farming entrepreneurship and the subsequent improvement of the culture of entrepreneurship – especially amongst prospective and practicing farmer entrepreneurs might assist households involved in small-scale farming entrepreneurship fight poverty. The belief in the power of entrepreneurship as a tool for addressing poverty has been demonstrated in most developing economies – especially from the early 1980s when most developing economies began economic transformation processes. Burger et al. (2005) reported that in most developing modern economies “governments expect entrepreneurship education to contribute to job creation, economic growth, skill enhancement and the development of an entrepreneurial culture”. This assertion is corroborated by a plethora of literature on African entrepreneurship (Burger et al., 2005; Maliwichi et al., 2011; Maliwichi et al., 2010; Mulu-Mutuku et al., 2015; Otuya et al., 2013). In fact, Mafukata (2015) found that the majority of poor rural residents of the developing regions are involved in small-scale entrepreneurship through the informal (40%) and/or the formal mainstream market (60%) in the fight against household poverty with reference to small-scale farmer entrepreneurs in the rural areas of South Africa for example. The postulation suggested by Mafukata (2015) reveals that either ways, the majority of small-scale farmers in the developing regions of Sub-Saharan Africa are practicing entrepreneurs. Mafukata (2015) went on further to argue in fact that it is rare to find farmers who only produce for domestic consumptions without venturing into the market in modern African communities in particular. This is because apart from livelihood and food supply targets to households, entrepreneur farmers also need to raise and generate household income from their farming activities. Perhaps after identifying this assertion, the Malaysian government invented this powerful working tool for its Agri-business and entrepreneurship promotion “Agriculture is business” which the government has been using to drive its target of improving agricultural entrepreneurship in Malaysia (Rezai et al., 2011). In fact, it has been developing all over the world that efforts were being made by the majority of governments to fast-track agricultural entrepreneurial development and advancement of farmers – especially those perceived to have been disadvantaged in regional mainstream formal economies.

In most regions of Sub-Saharan Africa for example, – especially in those countries which have been socio-economically disadvantaged by racial and colonial prejudices for example, attempts to promote and improve agricultural entrepreneurship have been fundamentally increased since the early 1980s onwards. In countries such as Nigeria, Tanzania, South Africa for example, reviewed literature (Essien et al., 2013; Mashenene & Rumanyika, 2014; Nwibo & Okorie, 2013) postulate that Agri-business and entrepreneurial innovations have been on the rise (Rezai et al., 2011) in order to fast track efforts to alleviate the poor populace from the vicious circle of poverty in the region (Essien et al., 2013; Hussain et al., 2014). This is consistent with the fact that the majority of the approximately 75% of the global poor; the majority of which are women who live in the region were involved in low farm productivity and non-entrepreneurial initiatives, and redress is therefore inevitably needed to integrate these resource-poor producers into active entrepreneurship (Raidimi, 2014). In so doing, Maliwichi et al. (2011) argued that economies would be facilitating a “people doing it for themselves” economic development which would fast track the integration of the poor into the broader modern economy. Raidimi (2014) postulates that the prime winners of this approach would be mostly women farmers who in fact were the largest contributors in the farming sector of economies in the developing regions. Evidently, integration of the resource-poor farmers and women in particular into mainstream entrepreneurship would in fact promote socio-economic inclusiveness in economic development (Mulu-Mutuku et al., 2015). Pursuant to these postulations, some governments have had their budgets increased (Rezai et al., 2011). The primary object of the budget increases are to fund agricultural entrepreneurship initiatives while on the one hand skills developments amongst entrepreneur farmers also receive major boost and considerable promotion.

In Malaysia for example, as follow up to this assertion, Rezai et al. (2011) reported that government has strategically started a programme promoting “informal agri-entrepreneurial training” through informal-based trainings of entrepreneurial farmers to develop agricultural entrepreneurship. Otuya et al. (2013) revealed that the training of

entrepreneurs approach was also adopted in Kenya and New Zealand for example. In fact, the hypotheses drawn by those who believe in agricultural entrepreneurship as a tool for poverty alleviation and reduction is that such innovation would promote development of the economy from the grassroots upwards. In addition, the argument for strengthening Agri-business and entrepreneurship initiatives is further motivated by assertions that “effective entrepreneurship can make towards employment and economic growth” in the respective poor regions characterised by small-scale informal economies which lack most crucial productive resources (Burger et al., 2005). There has been fundamental interest demonstrated by the desire of the small-scale agricultural entrepreneurs to expand their small-scale informal enterprises into mainstream formal entities which encourage governments to reform small-scale Agri-business and entrepreneurship (Adhvarya et al., 2013).

However, within these reform efforts, entrepreneurial success of the majority of these farmers has been found to be seriously impeded by some intertwined bottlenecks, complexities and constraints (Adhvarya et al., 2013; Agbenyegah, 2013; Mafukata, 2015; Nthakheni, 2006; Nwibo & Okorie, 2013). For example, the majority of small-scale entrepreneur farmers in the developing regions – especially Sub-Saharan Africa lacked formal school education and appropriate agricultural technological skills to run effective and efficient enterprises. This assertion is corroborated by Mashenene & Rumanyika (2014) who found that lack of appropriate entrepreneurial skills resulting from inadequate business training of entrepreneurs in Tanzania had been a major constrain of entrepreneurial development and growth for instance.

It has been furthermore argued that entrepreneur farmers who have not received any basic formal school education in Sub-Saharan Africa characterise the larger part of rural agriculture. Lack of formal school education posed developmental and growth prospects in small-scale informal agriculture – especially in poor communities of the rural areas, and this might be threatening to the livelihoods of millions of resource-poor populace who rely on agriculture for a living. This could be the basis of the adoption of the Malaysian model of agricultural entrepreneurship skills development “informal Agri-entrepreneurial training to develop entrepreneurship” postulated by Rezai et al. (2011) in order to correct and redress the effect of low formal school education and related skills in the promotion of agricultural entrepreneurship in the country. Simply put entrepreneurial culture and related skills are products of some attained levels of formal school education because, as Burger et al. (2005) postulated “education is an important contributor to the development of an entrepreneurial culture” of a nation.

Yagoub et al. (2007) reported that livestock production skills for example were still poorly developed in most regions of Sub-Saharan Africa – mentioning the Sudan as an example. Researchers such as Kahi & Rewe (2008) on the one hand also argued of the importance of good formal skills amongst resource-poor rural farmer entrepreneurs in these regions – especially in the livestock sub-sector which provides a variety of foods to millions of households in the region (Randela, 2000; Montshwe, 2006; Nthakheni, 2006). Lack of, and poor farming skills and expertise – with regard production and market factors amongst entrepreneur small-scale informal communal farmers in the developing regions emanated from increased lack of formal school education and poor literacy levels characterizing most parts of the region. A plethora of literature (Burger et al., 2005; Nell, 1998) conducted in most parts of Sub-Saharan Africa revealed that poor skills and low literacy levels amongst the majority of small-scale informal entrepreneur farmers for example have negatively impacted on agricultural technological skills and adoption in the communal sub-sector. Compounding low entrepreneurial and formal school skills rates in Sub-Saharan Africa in general and South Africa in particular is the fact that, in addition, there is low adult education for example (Van Niekerk et al., 2011). Sub-Saharan Africa has to therefore improve basic literacy levels and farm entrepreneurial and technological skills in order to cope with the current transformational agricultural era – where most communal farming systems are amalgamating and integrating with the commercial farming system in most parts of the region in general and South Africa in particular – especially post-liberation and independence (Chauke & Anim, 2013). However, in modern research concerning agricultural entrepreneurship – especially amongst small-scale entrepreneur farmers in the rural areas in particular, complexities and constraints regarding mainstream formal skills of entrepreneur farmers remain largely excluded and ignored. This paper fills that research gap by categorically investigating any such skills perceived as lacking amongst agricultural entrepreneurs in South Africa. However, as a

result of the numerous limitations of this study, this paper has been designed as a case study conducted in the Vhembe District of Limpopo Province.

## **Literature Review**

Developing regions could use Agri-business and entrepreneurship innovations amongst their poorer populace to improve on their economies and improvement of basic household livelihoods. However, this assertion could only be realised if economies could improve the Agri-business and agricultural entrepreneurial skills levels of the poor – especially amongst the small-scale communal farming groups who seem to struggle with Agri-business and entrepreneurial skills. Low productivity rates in agriculture, in addition the lack of market competitiveness of the sector point to a sector struggling with numerous constraints and complexities in terms of human capital factors. In fact, Mugonola & Baliddawa (2013/2014) postulated that human capital struggles in the agricultural sector in Sub-Saharan Africa, citing northern Uganda as an example, could be emanating from the regions' increased illiteracy levels which negatively impacted on other skills and competence. Limited administrative skills and capacity as a result of the fact that the majority of entrepreneur small-scale informal farmers in South Africa were mostly old and lacking in formal basic school education were impeding to Agri-business and entrepreneurship development initiatives in the country (Claasen et al., 2014). Substantiating the views expressed by Claasen et al. (2014) is the argument forwarded by Mugonola & Baliddawa (2013/2014) further reasoned that poor skills in farm record keeping and low understanding of business concepts amongst the majority of illiterate entrepreneur farmers, for example, were directly associated with high levels of illiteracy.

Evidently, modern agricultural entrepreneurship performance would be highly connected with the level of formal education literacy and technological skills which the entrepreneur farmer has acquired. These are fundamental factors which affect, and impact on the farmer's entrepreneurial behaviour, performance and decision-making capabilities amongst others (Grwambi et al., 2006). In Uganda, this dynamic was identified and corrective measures taken by encouraging partnership between the farming community and institutions of higher learning, for example, the Gulu University "hands-on-training of farmers" in the Gulu and Amuru districts in northern Uganda provides critical framework in the development of Agri-business and entrepreneurial skills and competence of farmers in that part of the country (Mugonola & Baliddawa, 2013/2014).

Farm management, numerical literacy and basic science skills among others for example were crucial for the farmer's agricultural output (Collier & Dercon, 2009). These factors influence both productivity of the farm enterprise and product marketing amongst others (Mafukata, 2014; Mafukata, 2015). For example, it has been argued that a farmer who has a poor formal education might have constrained agricultural performance while the farmer with higher level of formal education might attain increased farming output (Mugonola & Baliddawa (2013/2014); Van Zyl et al., 1996). Having considered factors of this nature, Mashenene & Rumanyika (2014), Mugonola & Baliddawa (2013/2014) and Rezai et al. (2011) reported that countries such as Tanzania, Uganda and Malaysia for instance had embarked on informal training of Agri-business and entrepreneur farmers to improve amongst others business and management skills to promote sustainable agri-entrepreneurship. Low farmer literacy levels might also lead to weakened agricultural production systems as that negatively impacts on farm productivity as a result of expected increased production and marketing costs associated with lack of proper skills (Nkhori, 2004). Weakened agricultural production systems might have devastating consequences considering that the majority of poor people in most parts of the developing regions were already food insecure and suffer from threatened domestic livelihoods Mugonola & Baliddawa (2013/2014).

Adoption of new technologies in farming on the other hand might also depend on the literacy level of the respective farmer. The lower the farmer's literacy level, the poor the adoption of new agricultural technological innovation might be (Nell, 1998). Kahi & Rewe (2008) therefore argued that there is need to improve on the farmer's technological skills in the developing regions to guarantee maximum agricultural efficiency and productivity. The same authors furthermore argued that technological skills in animal health, veld management, nutrition, animal reproduction and breeding genetics for example have to be prioritised to ensure an efficient and productive livestock

production system. The fact that most of these technological skills would require farm record keeping for example suggests farmers to acquire relevant skills. Farmers were expected for example to keep farm records on farm management and animal husbandry (Banga, 2002) and poorly educated and technologically skilled farmers might find this task difficult to handle. In fact, Mugonola & Baliddawa (2013/2014) has alluded to the fact that farm record keeping was low in some parts of Sub-Saharan Africa citing farmers in northern Uganda as example.

However, despite lack of formal school skill development amongst entrepreneur farmers, some of these skills might be acquired by enlisting the services of agricultural extension service amongst others (Yagoub et al., 2007). Agricultural extension service might assist farmer entrepreneurs to acquire such skills through organised workshops and seminars. In northern Uganda's Gulu and Amuru districts for example, entrepreneur farmers were assisted by a strong partnership of extension service and outreach of the Gulu University and the entrepreneur farmers to improve Agri-business skills and competence (Mugonola & Baliddawa (2013/2014) Mashenene & Rumanyika (2014) and Rezai et al. (2011) also reported of similar informal training programmes designed for farmer entrepreneurs in Tanzania and Malaysia respectively. Improved formal education and agricultural technological skills might raise the likelihood of successful agricultural development initiatives by policy makers for resource-poor entrepreneur farmers. For example, improved skills in animal nutritional management might improve the reproductive and productive performance of the animals which in turn might influence the farmer's economic returns (Labuschagné, 2001). Having considered the approaches employed in different regions of the world in addressing lack of proper Agri-business and farmer entrepreneurial skills – especially amongst illiterate communities, it is evident that skills limitations might be corrected for better competence and output of small-scale agriculture. This could be adopted in economies such as South Africa for example, where entrepreneurial culture and activity is said to be low to improve on entrepreneurial culture amongst their citizenry. However, in the case of South Africa, the formal school education system has been designed in a way it promotes that culture of entrepreneurship through, amongst others, Curriculum 2005 education policy which sought to promote entrepreneurship education introducing Economic and Management Sciences in formal school curriculum as early as basic and medium formal school education in the country. Also, the Revised National Curriculum Statement (RNCS) at the levels of Grade R to 9 cohorts seeking to promote entrepreneurship knowledge, skills and attitude as overall outcome would also promote entrepreneurship education (Burger et al., 2005).

## **Research and Methodology**

### **Statement of the problem**

The majority of resource-poor rural and communal livestock farming populace in the Vhembe District, Limpopo Province of South Africa have passion to become successful commercial Agri-farmers and practicing entrepreneurs. The majority of these farmers are already practicing entrepreneurs; informally or formally and are actively involved in Agri-business and entrepreneurial agriculture. However, their entrepreneurship is impeded and constrained by a variety of intertwined factors. While existing studies in the area have however investigated most of the constraints and complexities in the sector and emerge with an assortment of such factors, studies auditing entrepreneur farmer skills affecting successful entrepreneurship in the region are rare. A plethora of reviewed literature (Agbenyegah, 2013; Burger et al., 2005; Essien et al., 2013; Maliwichi et al., 2011; Maliwichi et al., 2010; Mugonola & Baliddawa (2013/2014; Mulu-Mutuku et al., 2015; Nwibo & Okorie, 2013; Otuya et al., 2013; Rezai et al., 2011) in fact postulate that lack of proper skills amongst practicing small-scale livestock farmers impedes successful entrepreneurship. In the case of South Africa, this could be explained through the assertion submitted by Maliwichi et al. (2011) who hinted thus “specific entrepreneurship education and training has been identified to be a missing link among South African small business owners”. This paper postulates therefore that some of the impeding complexities and constraints were to do with skill-based factors.

## **The Study area**

This study was conducted in the Musekwa Valley of the Vhembe District in Limpopo Province, South Africa. Musekwa Valley is an arid to semi-arid area characterised by high summer temperatures which at some other times of the year might also reach temperatures of as high as 45 degree Celsius – especially in late summer when the entire region's temperatures tend to rise astronomically.

## **Sample size and sampling procedure**

There were approximately 1 375 households in the eight villages of the study area. The overall estimated population is approximately 6 179 inhabitants of which women (54.9%) were in the majority followed by men (45.07%). A mixed crop-livestock farming system dominates agricultural practices in this area. One hundred and eighty three (183) farming households comprising approximately 13.3% of the total households in this study area were actively involved in cattle farming small-scale entrepreneurship. This paper randomly selected fifty five (n=55) farmers to participate in this study. In addition, a total of 30 Stakeholders with interest in the farming activities of the study area were also selected through convenience sampling for Key Informant Interviews (KIIs). Butchers (Six), by-product traders (one), commercial farmers (2), community representatives (four), extension officers (two), scholars conversant with the field (two) and the political Ward councilor under the Makhado Local Municipality were respectively selected. A guideline of questions was used for the KIIs. Some questions on the guidelines were drawn from Grwambi et al. (2006) while some were constructed by the researcher with the help of the local agricultural extension officers and participant scholars in this study. Two each other farmers were randomly selected from the eight villages participating in the study (n=16) for two Focus Group Discussions (FGDs).

## **Data Collection methods and instruments**

The fifty five (n=55) primary participants were interviewed on one-on-one basis to collect primary data. First socio-demographic data of the respondents were collected. The socio-demographic data of the respondent entrepreneur farmer were gathered in relation to the age; gender; marital status, household headship, level of education attained by farmer and the level of education attained by other household members apart from the participant farmer. The farmer's specific skills were measured in arithmetic competence regarding the ability of the entrepreneur farmer's ability and proficiency in handling basic addition, subtraction, multiplication and division. In addition, the paper also measured the farmer's budgeting, marketing, financial competence, farm production knowledge and farm risk management proficiency. Since business skills are reasonably expected to be functional across fields, the guidelines in the selection of the variables to be selected for the interviewing of the respondents were sourced from Msipah et al. (2013). In this case, data were collected using a rating scale comprising three categories of farmer competence levels (Good; Fair; Bad). Respondent entrepreneur farmers were requested to rate their skills levels in terms of the rating scale provided. For the Key Informant Interviews and Focus Group Discussions, data were recorded as field notes for analysis.

## **Data Analysis**

The collected descriptive data were entered into an excel spreadsheet for analysis using frequencies and percentages. Qualitative data from the Key Informant Interviews (KIIs) and Focus Group Discussions (FGDs) were coded and analysed in terms of the repetitive nature of the data.

## **Theoretical assumptions**

This paper bases its theoretical framework on the postulations presented by Van Niekerk et al. (2011) and Burger et al. (2005) which both opined that Agri-business and entrepreneurship could be facing constraints and complexities based on a set of intertwined factors – especially in South Africa. The so-called “Problem Tree” framework (Van Niekerk et al., 2011) provided some aspects of analysis of this paper. In the same way as Burger et al. (2005), this paper departs from a framework hypothesizing that “presently the development of entrepreneurship in South Africa experiences a number of problems” which could be addressed to develop “an entrepreneurial culture” sustainable

enough to produce effective, efficient and successful Agri-business ventures and entrepreneur farmers in the country. Secondly, this paper borrowed theoretical postulations from the “integrated framework to improve rural entrepreneurship and small business” suggested by Agbenyegah (2013). In fact, the conceptualization of entrepreneurship in this paper has been influenced by the conceptualization of the same in Agbenyegah (2013). The Agbenyegah (2013) entrepreneurship conceptualization is based on classical French conceptualization theory of French economist Jean Baptiste Say of the 1900s who had evolved the same from the French entrepreneurship revolution of the 1700s. In this conceptualization, the entrepreneur “is trying to shift economic resources from the least productive area into an area of higher productivity” This paper postulates that small-scale agricultural activities in the study area are of low productivity characterization, and entrepreneur farmers are therefore trying to shift these activities to a more productive entrepreneurial economic activities of mainstream formal markets. This postulation bears similarities to the Agbenyegah (2013) conceptualization of entrepreneurship. Furthermore, this paper conceptualizes an entrepreneur as “one who organizes, manages and assumes the risk of a business enterprise” (Agbenyegah, 2013). Although amongst small-scale farmers in this study area the dynamics point to a community of subsistence production mentality, the fact that the farmers are, from time to time actively participating in the market classifies them as being entrepreneurial because the intention to this regard is identifiable, and the farmers also expressed desire to become formal entrepreneurs. Finally, the willingness of the small-scale informal entrepreneur farmers to transform into commercially productive entrepreneurs through access to skills development and formal education (Burger et al., 2005; Van Niekerk et al., 2011) has been exploited in the analysis of the issues of this paper.

## Results and Implications

The results of this paper are structured and presented in three categories. First, this paper presents the resource inventory of the study area, followed by the results of the socio-demographic characterization of the respondent farmer entrepreneurs and finally the results of the expressed perceptions of the farmer entrepreneurs on their competence on formal skills competence with regard entrepreneurship.

### Resource inventory in the study area

**Table 1:** Resource inventory in the Musekwa Valley

Village	Farmers	Cattle (Bos primigenious)	Goats (Capra aegagrus hircus)	Sheep (Ovis aries)	Donkeys (Equus africanus asinus)	Total Livestock	Percentage
Afton	13	96	280	-	16	392	6.34
Dolidoli	33	671	420	18	16	1125	18.20
Khomele	31	502	250	18	12	782	12.65
Maangani	20	355	550	10	10	925	14.96
Maranikhwe	18	260	472	15	28	775	12.54
Musekwa	46	469	660	08	34	1171	18.94
Sane	05	62	120	22	08	212	3.43
Strathaird	17	237	526	07	28	798	12.91
<b>Total</b>	<b>183</b>	<b>2652 (42.91%)</b>	<b>3278 (53.04%)</b>	<b>98(1.58%)</b>	<b>152 (2.45%)</b>	<b>6180</b>	<b>100</b>

Table 1 shows figures of the major livestock kept by the majority of the farmer households in the study area. The results of this paper revealed that the number of farmers per village in this study area is unevenly distributed as a result of a variety of factors. For example, the higher the number of households in the particular village, the higher the number of farmer entrepreneurs. The results of this paper (table 1) furthermore revealed that goats (3 278 or

53.04%) dominate livestock population followed by cattle (2 652 or 42.91%) in the study area. Goats adapted better than cattle for example to the environmental conditions of this study area. Goats were cheaper to acquire and maintain while cattle are expensive and costly to maintain. The simple explanation to this distribution is that the majority of the population in the study area find it affordable to own goats more than cattle. In addition, goats tend to have a more faster market than cattle because of afford-ability to purchase. Goats sell faster and have a larger market base because of cultural factors on goats. For example, most households would buy goats not only for household consumptions but for cultural, traditional and ritualistic practices which often require slaughtering of goats as sacrifice to the ancestors or gods more than cattle and sheep as an example. Key informant Interviews (KIIs) also revealed that goats were in fact currently gathering more market momentum in the area because of the high demand by the Ethiopian, Indian and Somali population which is fast increasing in the area, and these people consume lots of goat meat. As a result of this demand, the selling price of a goat has sharply increased much to profit advantage of the farmers.

Furthermore on the results of this paper is that the population of donkeys (2.45%) seems to be high in this study area as compared to those reported by Nthakheni (2006) elsewhere in the same region. Although donkeys do not provide any food source, they are mostly kept by most of the households in the area for draught energy purposes. Donkeys provide cheaper draught energy than tractors and other forms of machinations. Donkeys also easily adapt to the drier conditions of this study area, and therefore a cheaper and easily available alternative means of transportation to most resource-poor farmers.

During Focus Group Discussions (FGDs) it was evident that livestock farming – especially on larger animals such as cattle was still biased against women. Women would own the small animals such as goats and sheep – and in fact mainly chicken and fowls amongst others. This highly patriarchal system of access to productive resources meant that women would by and large be excluded from larger commercial practices. If women could be excluded from economic practice and participation at this level, this simply translates into a gender-biased economy at national level, and an economy therefore fermenting on the high inequalities of distribution of productive resources between men and women already so deeply entrenched within the South African socio-economic public at large. In other words, South Africa would remain open to an economy based on race and gender characteristics.

## **Socio-demographic characterization of the respondent farmer entrepreneurs**

### ***Farmer distribution according to gender***

The results of this paper (table 2) revealed that men (81.8%) were in the majority than women(18.2%).

**Table 2:** Gender distribution among communal cattle farmers in the study area

<b>Gender</b>	<b>Frequency</b>	<b>Percentage</b>
<b>Men</b>	45	81.8
<b>Women</b>	10	18.2
<b>Total</b>	55	100

These results of this paper reveal a sharp contrast with the general population distribution in the study area which shows that the majority of the population is made up of women (54.92%) followed by men (45.07%). These results postulate that men dominated women with regard distribution of productive resources in this study area. The implication of these results is that despite the fact that women were generally in the majority in the study area in terms of general population distribution, only a few of these women are involved, and actively participated in the farming activities. Therefore the results of this paper revealed that those in numerical minority dominate those who are in numerical majority; a factor which should receive fundamental interest in terms of gender transformation with regard economic participation — especially in a country such as South Africa where women had been socially and economically marginalised for decades. Furthermore, these results affirm that South Africa in general, or certain



sections of the country could still be amongst the major most unequal economies around the world in terms of productive resource distribution.

### ***Household headship***

As indicated in table 3, the majority (81.8%) of farmer households are headed by men, while women headed a few households (18.2%). One case of significant interest is that of households which are headed by children. The results of this paper reveal that child-headed households, amongst the total farming households in this study area amounted to approximately 1.8%.

**Table 3:** Household headship among communal cattle farmers in the study area

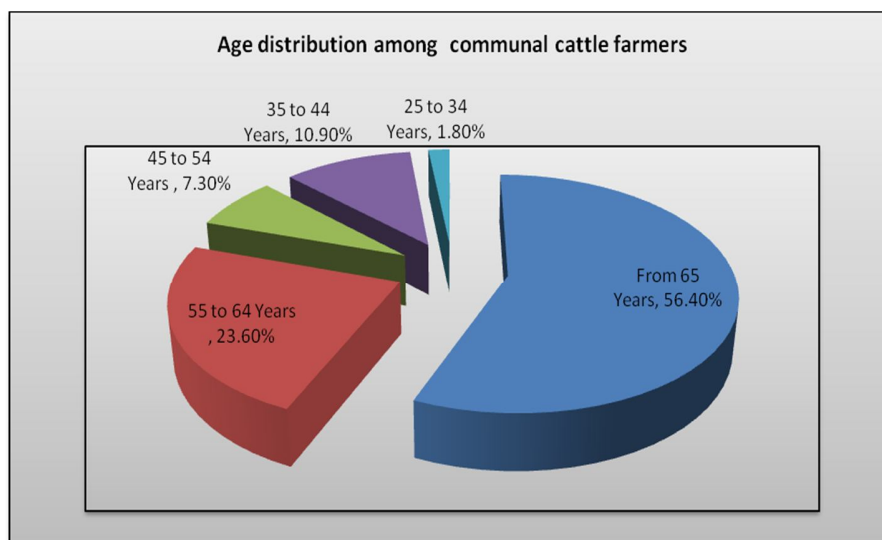
Household head	Frequency	Percentage
<b>Men</b>	44	80.0
<b>Women</b>	10	18.2
<b>Child-headed</b>	1	1.8
<b>Total</b>	55	100

The results of this paper are however corroborative of trends in most parts of Sub-Saharan Africa where, in general men dominate household headship. The results of this paper are similar to those reported by Gameda (2009) who found and reported that the majority of households amongst the livestock farming communities of rural Ethiopia (94.4%) were headed by men, while women headed approximately 5.6% of the households. However, in the larger South Africa, gender distribution of household headship amongst livestock communal farming households would differ from region to region (Stroebe, 2004).

Considering the findings of these other studies conducted in other regions of Sub-Saharan Africa, and compare the findings with the results of this paper, it is evident that men still dominate household headship in most communal cattle-production systems in most areas of the Southern Africa region. However, the intensity and degree of household headship distribution vary from region to region depending on circumstances affecting the particular region. Household headship dominated by men might provide men with a dominant scenario in the farming entrepreneurship (Arisunta, 2010) while households headed by women are left out of active farming activities on the one hand. Interestingly, the scenario of households headed by children brings another socio-economic dimension. This result opines that some child-headed households in this study area might be active in the local economy, therefore giving advantage to such households to generate livelihoods in a situation where normally, such households would entirely be excluded. It emerged during Focus Group Discussions (FGDs) and Key Informant Interviews (KIIs) that child-headed households were not voluntary but created by forced circumstances and factors. Informants reasoned that increased number of deaths related to HIV/AIDS and other diseases often were the factors behind the mushrooming of child-headed households. Unlike in Zimbabwe as reported by Francis-Chizororo (2008), children left with livestock by deceased parents in this study area kept and owned such livestock. This creates opportunity for such children to participate in the market, and to also source for household food.

### ***Age distribution of the respondent farmer entrepreneurs***

In Figure 1, the results of this paper revealed that 56.4% of the heads of household are older than 65 years of age, 23.6% are between 55 and 64 years of age, 7.3% are between 45 and 54 years of age, 10.9% between 35 and 44 years and 1.8% between 25 and 34 years of age.

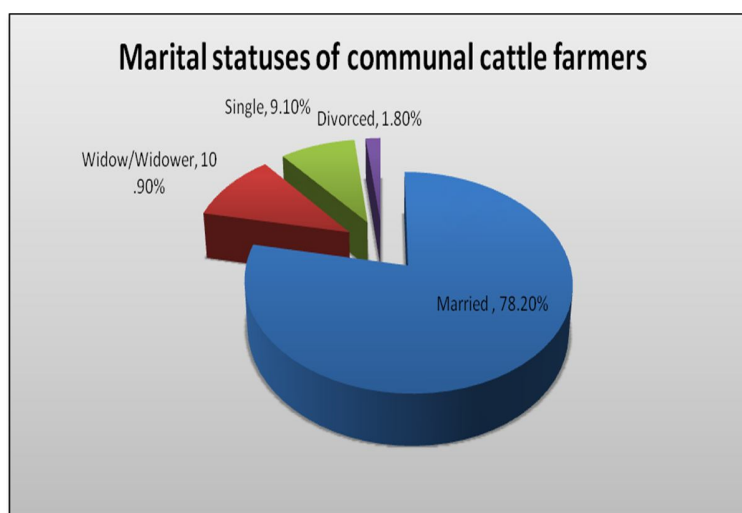


**Figure 1:** Age distribution of entrepreneur farmers in the study area

These results suggest that the majority of the communal cattle farmers in the study area are old. These findings are in line with those of Molo (2008) who reported that 65.9% of communal farmers in some rural areas of South Africa are between 50 and 65 years of age whereas youth aged between 16 to 24 years of age are only 1.5%. This age distribution trend indicates that communal farming in South Africa is dominated mainly by older farmers (Grwambi et al., 2006). Older farmers tend to be less productive in livestock production because this sector is highly physically demanding.

#### ***Marital statuses of heads of household***

The results of this paper (Figure 2) revealed that the majority the adult farmer entrepreneurs who are heads of household are married (78.2%), single who never married (9.1%), widows or widowers (10.9%) or divorced (1.8%).



**Figure 2:** Marital statuses of communal cattle farmers in the study area

The marital status of the farmer might also have a bearing in market participation of the farmer. For example, married adult women might have to be at the mercy of their husbands for market decisions. Traditionally, women were obliged to consult or seek for permission from the husband for any decision. The unmarried on the other hand might have more freedom with regard entrepreneurial decisions.

#### ***Educational profile of respondent farmer entrepreneurs***

The results of the study revealed that the majority of heads of household had attained some formal school education (61.8%) distributed in terms of primary school education (34.5%) and secondary school education (27.3%). These results suggest that the larger majority of entrepreneur farmers in this study area are functionally literate. These results are a contrast with those reported by Mmbengeni & Mokoka (2002) who revealed that elsewhere in the same province, the majority of farmers had only attained primary (62.0%), secondary (35.0%) and tertiary level education (3.0%). The results of this paper postulate that entrepreneur farmers in this study area might be better positioned to engage in entrepreneurial activities with ease because they might be able to understand some of the complicated entrepreneurship language involved. This assertion is corroborated by Butt et al. (2011) who argued that attained formal school education might develop and improve knowledge, wisdom and other desirable qualities of the respective individual. On the one hand, lesser educated entrepreneur farmers might struggle with the entrepreneurial environment.

#### ***Formal educational profile of other household members apart from respondent entrepreneur farmers***

The results of this paper (table 4) revealed that 48.1% of the spouses of the respondent entrepreneur farmers in this study area lacked formal school education, whereas only a few (38.5%) had managed to acquire primary and secondary school education (13.5%) only. In addition, children of the respondent entrepreneurial farmers in the study area also lacked formal school education (39.6%) whereas only 38.3% of these children had managed to acquire primary and secondary education (22.1%) only. There could be uncountable factors employed to explain the poor state of level of formal education attained by respective members of the households of these entrepreneur farmers in this study area. Amongst others, lack of parental involvement in the education of these children and poor performance of the education system in general currently in place in South Africa might be cited as some of the possible factors.(Govender, 2007; Rambiyana & Kok, 2002). The overall implication of these factors is that they might be constraining complexities to successful and effective farming entrepreneurship in this study area. The fact that other members of the households are poorly formally educated might imply that the other members would not be in position to assist the already incapacitated entrepreneur farmer because of this limitation.

**Table 4:** Educational profile of other household members apart from entrepreneur farmers

Category	No.	Frequency Schooling	Primary Education	Secondary Education	Post-School Education	Total Percentage
<b>Respondent</b>	55	21 (38.2)	19 (34.5)	15 (27.3)	0	<b>100</b>
<b>Spouse</b>	52	25 (48.1)	20 (38.5)	7 (13.5)	0	<b>100</b>
<b>Children</b>	217	86 (39.6)	48 (38.3)	83 (22.1)	0	<b>100</b>
<b>Other</b>	22	0	11 (50.0)	11 (50.0)	0	<b>100</b>
<b>Total</b>	<b>346</b>	<b>132(39.6)</b>	<b>98 (27.5)</b>	<b>116 (32.9)</b>	<b>0</b>	<b>100</b>

In addition to above statement, those other members of the farming households other than the spouses and children of the respective entrepreneur farmer residing with the farmers have either only attained primary (50.0%) or secondary school (50.0%) education. In the absence of the incumbent entrepreneur farmer, or inheritance of the farm enterprise, the spouse might be exposed to serious skills-based limitations if the spouse lacked formal school education. The results of this paper also revealed that there are no household members in the respective entrepreneur households in the study area who have attained any tertiary education.

***Perception of the farmer entrepreneurs on their competence on formal skills competence***

The results of this paper (table 5) revealed that only 21.8% of the entrepreneur farmers were good in marketing, cattle production (20.0%), budgeting (41.8%), financial management (38.2%) and farm enterprise risk management (25.5%). These results revealed that there was low attainment of farm technological skills amongst the majority of the entrepreneur farmers. The results of this study furthermore revealed that there were some entrepreneur farmers who were either fair or bad in budgeting (23.6% and 34.5%), marketing (36.4% and 41.8%), cattle production (29.10% and 50.9%), financial management (40.0% and 21.8%) and farm enterprise risk management (38.2% and 36.3%) respectively. Both sets of results corroborate Yagoub et al. (2007) who found and reported that entrepreneur farmer technological skills in some regions of Sub-Saharan Africa in general and South Africa in particular were still increasingly underdeveloped at running efficient commercial enterprises. Mmbengeni & Mokoka (2002) on the other hand also corroborated this assertion arguing that poor farmer technological skills in areas such as financial management, farm engineering and veterinary management amongst others still showed some serious limitations in the small-scale informal farmer entrepreneur sub-sector in some regions of South Africa. In fact, in aggravation of this assertion is the fact that, generally, such skills were yet to receive adequate focus with regard improvement and development – especially amongst communal cattle farmer entrepreneurs in some parts of the Limpopo Province, South Africa in particular.

**Table 5:** Perception of the farmer entrepreneurs on their competence on formal skills competence

Measured variable in percentages									
Rating	Addition	Subtraction	Multipli- cation	Division	Budget- ing	Marketi ng	Production	Finan cial	Risk
Good	76.4	69.1	58.2	52.7	41.8	21.8	20.0	38.2	25.5
Fair	7.3	7.3	16.3	18.2	23.6	36.4	29.1	40.0	38.2
Bad	16.3	23.6	25.5	29.1	34.5	41.8	50.9	21.8	36.3
Total	100	100	100	100	100	100	100	100	100

Evidently, lack of these crucial skills amongst farmer entrepreneurs might have some link with low formal school educational levels attained by some considerable numbers of people who lacked basic formal school education in most communities in South Africa (Burger et al., 2005). In fact, attainment of formal school education was still generally low in the Sub-Saharan Africa region (Claasen et al., 2014; Mashenene & Rumanyika, 2014; Mugonola & Baliddawa (2013/2014). Govereh et al. (1999) and Terblanche & Willemse (2009) argued that it is imperative for entrepreneur farmers to demonstrate some ability to read, write and to do basic arithmetic calculations such as addition for example. In fact, entrepreneur farmers have to demonstrate acquisition of some basic knowledge on understanding basic business concepts such as bank interest rates, loan-able amounts and the mode of repayments for example. From the results of this paper (table 1), it is easier to identify that there would be a sharp contrast to this assertion because fewer entrepreneur farmers are able to demonstrate basic skills in crucial areas such as financial management, risk management and budgeting which are critical to effective, profitable and sustainable Agri-business entrepreneurship.

Lack of these basic skills might impact on the entrepreneur farmer's ability to attend to basic farm management skills (Govereh et al., 1999) — especially with regard to managing farm enterprise risks such as diseases and cattle mortality rates amongst others. Lack of these skills negatively affect the farmer's interpretation of crucial livestock production technologies, understanding of market information and competence in modern farming practices amongst others (Nell, 1998; Seyoum, 2008; Wynne & , 2004; Collier & Dercon, 2009). As a result, the farmer might be incapacitated in terms of entrepreneurial performance and effectiveness in the business.

However, basic numerical skills (table 1) showed some high levels of attainment as the majority of the entrepreneur farmers were conversant with addition (76.4%), subtraction (69.1%), multiplication (58.2%) and division (52.7%). A considerable number of farmers however still lacked in these skills as some could only manage to be either fair or bad in these skills; addition (7.3% and 16.3%), subtraction (7.3% and 23.6%), multiplication (16.3% and 25.5%) and division (18.2% and 29.1%) respectively. A farmer who wouldn't know, or have sufficient skills in how to add for example might encounter challenges when counting livestock in the farm to start with – and, in addition, struggle with marketing factors such as understanding transaction costs involved in business and calculations of simple issues of business such as profit margins for example.

The implication of the results of this paper is that entrepreneur communal cattle farming in this study area might not offer sufficient grounds for farm productivity and the sustainability of the system due to lack of these critical basic skills amongst entrepreneur farmers (Van Niekerk et al., 2011). It is within this context of lack of formal school education and technological skills amongst small-scale informal entrepreneur farmers in particular that Mmbengwa et al. (2011) argued that farmer training and skills development should receive utmost priority in South Africa. In fact, it has been generally acknowledged that entrepreneurial skills development amongst the poorer sectors of the economy might be key factor for sustainable socio-economic practices of a country (Burger et al., 2005; Essien et al., 2013; Mashenene & Rumanyika, 2014; Mugonola & Baliddawa, 2013/2014; Rezai et al., 2011). In South Africa for instance, this could be directed mostly to emerging Black commercial farmers who are the worst affected of these complexities (Claasen et al., 2014) due to the socio-economic factors affecting the country from apartheid. Evidently, the theoretical framework on the postulations presented by Van Niekerk et al. (2011) and Burger et al. (2005) which both opined that Agri-business and entrepreneurship could be facing constraints and complexities based on a set of intertwined factors – especially in South Africa are in the context of the results of this paper evidently demonstrated. In other words, the precepts of Van Niekerk et al. (2011) so-called “Problem Tree” model are evident.

Key informant Interviews (KIIs) and focus Group Discussions (FGDs) revealed that entrepreneur farmers in this study area were more than willing and ready to improve their skills because they valued Agri-business and entrepreneurship opportunities in their region. However, the limitation has been that efforts to assist them by authorities have been hard to come by. On the other hand, government officials conversant with processes in the province opined that such skills improvement and development initiative do exist within government, and they were earmarked for the betterment of entrepreneurship amongst the poor, and in addition earmarked as operational strategy of the Limpopo Department of Agriculture in particular to realize the targets of the so-called Millenium Development Goals (MDG). This approach is corroborated by Van Niekerk (2005) as an agricultural entrepreneurship growth strategy to fight poverty in the developing regions in particular.

This paper established that there have been major obstacles, complexities and constraints in improving farmer skills amongst entrepreneur communal farmers in communal South Africa in general and this study area in particular with regard crucial aspects of farming such as agricultural technology and management skills because of poor involvement of State agencies, Non- Governmental Organisations (NGOs) and other development agencies in farmer support and training for example. These results are corroborated by Christoforasis (2008). However, despite these challenges, poor entrepreneur farmer skills might be corrected and improved through effective extension service which could provide such trainings as important and necessary to the entrepreneur farmer. This is affirmed by Mmbengwa et al. (2011).

## **Conclusions**

Farmer skills development amongst communal cattle farmers in Limpopo Province is crucial for agricultural development and growth. The majority of the entrepreneur communal cattle farmers in the Vhembe District still lack critical basic formal school education and Agri-business technological skills particularly with regard to budgeting, financial management, product marketing, livestock production and risk management amongst others. If the South African government still wants to reform agriculture; to make it more inclusive and competitive, entrepreneur communal cattle farmer skill development would have to be prioritized. This paper concludes therefore that improving and increasing formal school educational levels and Agri-business technological skills attainment amongst entrepreneur communal cattle farmers in this study area might improve the entrepreneurial development and expertise of the farmers. Entrepreneurial development of the entrepreneur communal farmers in this study area might lead to emergent sustainable agricultural enterprises in the rural areas in particular thereby addressing and redressing the issues of domestic poverty to a certain extent. On the one hand, this paper opines that continuous lack of formal school education, basic arithmetic and lack of new Agri-business technological skills amongst the respondent entrepreneur farmers in this study area might lead to an ever trapped entrepreneur farmer in low productive agricultural practices where subsistence activities dominate economic proceedings.

The results of this study therefore suggest that priority in terms of farmer skills development amongst entrepreneur communal cattle farmers in the study area should mainly focus on livestock production, cattle marketing, farm risk control and management, financial management and budgeting amongst others – where the skills level reveal low attainment among the farmers. This paper concludes that improving farmer technological skills would improve agricultural productivity and sustainability. It might be crucially important of the entrepreneur farmers and the South African authorities to maximise the opportunities provided by the so-called Adult Basic Education and Training (ABET) programme to develop some of these poorly developed skills amongst entrepreneur communal cattle farmers in this study area for instance. This programme might incorporate vocational skills training in achieving its numeracy and language objectives to improve income generation and livelihood strategies amongst this seemingly aging entrepreneur farming community of this study area.

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